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Structural change and prospects for urbanization in Asian countries

Gavin W. Jones

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PREFACE

An earlier version of this paper was presented at the Conference on Urbanization and National Development in Asia, held at the East-West Population Institute in January 1982. It was substantially revised while I was a Research Fellow at the East-West Population Institute. I would like to thank both the Australian National University and the East-West Center for supporting this outside studies program. I would also like to thank the participants at the 1982 conference and the anonymous referees for valuable comments on earlier drafts of the paper.

ABSTRACT Asian countries can be divided into three groups for purposes of analyzing their urbanization prospects: the more developed, such as the Republic of Korea and Malaysia, where urbanization has proceeded quite far and the size of the rural population has begun to decline or will soon begin to decline in absolute terms; the poor, densely settled countries such as India, Bangladesh, and Indonesia, with low levels of urbanization and massively increasing rural populations; and an intermediate group of countries, including Thailand and the Philippines. For the second group of countries in particular, present development strategies imply the growth of cities to sizes beyond the range of present human experience. Though planners aim to avoid such growth, the measures used to date have not been comprehensive enough to achieve their aims.

Evidence on the relationship between the growth of nonagricultural employment and urbanization suggests that the relationship is flexible. This paper argues that the tempo of urbanization can be reduced by transformation of the employment structure in rural areas. Elements of a development strategy designed to achieve this transformation are outlined, along with their relationship to some of the urban development strategies widely canvassed in the literature.

IN RECENT YEARS, many useful studies have been published that enable us to get a better "fix" on the dimensions of urbanization in developing countries, especially from a demographic point of view (notably United Nations, 1980; Preston, 1979; Goldstein and Sly, 1975; Rogers and Williamson, 1982), and raise important issues about the role of urban growth in Asian national development in a context of rapid population growth (Davis, 1975; Pryor, 1979; Hackenberg, 1980).

Some of the key findings of the United Nations study, as summarized by Preston, may serve to put finally to rest misconceptions that proved remarkably hardy in the face of accumulating evidence to the contrary. These misconceptions included the notions that Asian urbanization was very rapid by historical standards and that policies to counter rapid city growth could be directed toward migration without an equally strong attempt to lower birth rates. Preston's summary of four key conclusions of the United Nations study might be mentioned here by way of introduction:

1. The rate of change in the proportion urban in developing countries is not exceptionally rapid by historic standards; rather, it is the growth rates of urban populations that represent an un-

precedented phenomenon—a point, incidentally, made by earlier writers such as Davis (1969, 1975) and Jones (1975).

2. Urban growth throughout most of the developing world results primarily from the natural increase of urban population.[1]
3. Among the factors that influence the growth rates of individual cities, national rates of population growth stand out as dominant in intercity comparisons.
4. Urban growth in developing countries typically has not been associated with a deterioration in the ratio of proportion of labor force in the industry sector to urban proportion of the population.

Much of the concern over urbanization in Asia has been premised on the apparent "trap" in which the Asian countries as a whole are caught. They have low levels of urbanization and far higher agricultural population densities than those in Europe at the time of the urbanization "take-off." In many parts of Asia, further expansion of the cultivated area is not possible. Further increases in rural populations, though they can without doubt be accommodated by increased multiple cropping, irrigation, and use of higher-yielding varieties, will hardly be conducive to the substantial increases in rural per capita incomes required in order to bring these countries into the group of middle-rank developing countries with modest levels of living. Yet, with a few exceptions—notably the Republic of Korea, Taiwan, and Malaysia—even rapid increases in urbanization will not prevent further increases in rural population. In the Republic of Korea, the size of the rural population began to decline in the 1965–70 period, during which it fell by more than one million. The pace of out-migration from rural areas has slowed since that time, and it is not clear whether in the 1970s it was enough to remove the entire natural increase of the

1. The simplistic conclusion should not be drawn that the contribution of migration to urban growth over time is not extremely important, because urban natural increase is feeding on a population being swollen by migration. Take, for example, a city growing by 6 percent per annum, half of this through natural increase and half through net migration. Over a 20-year period, its population increase will be three times larger than if natural increase alone was operating; in other words, migration is directly or indirectly contributing two-thirds of the increase. Over a longer period, this contribution would rise still further. Conversely, of course, the same point can be made about the role of natural increase in augmenting the growth due to migration alone. And it is important as well to recognize that the natural increase of the rural population is constantly increasing the pool of potential migrants.

rural population, currently running at about 360,000 annually (ESCAP, 1980a:21–23, 67–68). In Taiwan, the size of the agricultural population peaked in 1969 and has since been declining (Galenson, 1979:147). In Peninsular Malaysia, until 1970 the agricultural population was continuing to increase, and this was probably true of the 1970s as well. However, the level of urbanization, the rates of industrialization, and income differentials between urban areas and smallholders in the poorer states have now reached the point where the rural population could well begin to decline in size.

To hold anticipated increases in rural populations of Asia down as much as possible, an inexorable increase in levels of urbanization is needed, with Western levels of urbanization, if not the ultimate goal, at least seen as the inevitable concomitant of a successful process of economic development.

But herein lies the dilemma. Western levels of urbanization, if they are to be achieved in Asian populations that will grow by hundreds of millions by the turn of the century and beyond, imply increases in urban populations so massive that they are almost impossible to conceive. Particular concern is expressed about the growth of the largest metropolises, since the region has high levels of urban primacy. Translation of urban growth projections into forecasts of the size of the largest cities 40 years from now, through application of the rank-size rule (modified to fit individual country or city size distributions) to projected urban populations, yields "science fiction" estimates of city populations exceeding 20 million for Bangkok, Manila, Dacca, and Delhi; 35 million for Jakarta; and perhaps 40 million for Calcutta and Bombay. Though such projections of urbanization are based on assumptions of successful industrialization and economic development, which imply an enhanced capacity to sustain massive urban agglomerations, they take us, in planning terms, far beyond anything the world has yet seen and hence into realms of great uncertainty.

A more realistic set of assumptions, implying that countries of the region will still be well behind Western levels of industrialization and urbanization, nevertheless yields the following projected populations for the year 2000 in cities of the countries discussed in this paper: Calcutta, 15.9 million; Bombay, 16.3 million; Madras, 12.3 million; Delhi, 11.2 million; Karachi, 11.4 million; Jakarta, 14.3 million; Manila, 10.5 million; Bangkok, 9.9 million; Seoul, 13.7 million (United Nations, 1982: Table 8). It is not at all clear whether countries

at the level of development that India, Pakistan, and Indonesia will have reached by the year 2000 (only 17 years hence) can sustain cities of this size.

There are, of course, other possibilities, for example that the growth of the largest cities will slow because the difficulties of making them desirable places to live, work, and conduct business will divert urban growth elsewhere. Modeling of urban growth to date has failed to integrate adequately the potential feedback of large-city costs (e.g., those resulting from inelastic urban land supplies and overhead investment requirements for housing and social amenities on rural-urban migration decisions [see Kelley and Williamson, 1982:595–99]). This means only that the largest cities may not be as large as projected, but there will be more of them. The trends in Asia are certainly not toward a declining share of large-city population in the total urban population.

Rapid population growth lies at the heart of the urbanization dilemma in the poorer Asian countries. Because of this rapid growth, rapid urbanization is needed to alleviate the problems of the rural areas, while retention of population in rural areas is needed to avoid the problems of massive urban growth. In other words, the stark choice is between overurbanization and overruralization. Reduction of fertility rates is probably the most important element of a responsible policy on human settlement in these countries. Large and sustained fertility reductions are hardly likely without a great deal of structural transformation. Nevertheless, it is essential that complementary policies aimed at fertility reduction be given high priority.

The growth of big city populations in the region, implied by prospective population growth, and desired patterns of economic development place in clear focus the question: "Is there some other way?" Short of breakthroughs in agricultural technology that are as yet only in the realm of fantasy, I argue in this paper that the only "other way" can be through a change in the traditional relationship between urbanization and nonagricultural employment, linked with changes in city-size hierarchies, and that these changes might not be out of the question if suitable policies are adopted.

This paper, then, examines the relationship between urbanization and structural change in production and employment, drawing as far as possible on evidence of historical trends in this relationship, and speculates about future trends. First, a word is needed about data problems.

DATA PROBLEMS

Meaningful comparisons of levels of urbanization in one country over time and between countries at a particular time require that the basis of the estimates be the same, i.e. that the same criteria be employed in determining urban status and that the boundaries of urban localities be demarcated according to their urban characteristics rather than by using political boundaries (see Goldstein and Sly, 1974:12–13). Such uniform criteria are demonstrably not the case in practice. Davis (1969) has shown that levels of urbanization as locally defined tend to be fairly closely correlated, in international comparisons, with levels of urbanization as defined by means of a minimum cut-off point for size of urban places (e.g., a population of 20,000). In particular country comparisons, however, this need not necessarily be the case.

In the present paper I attempt to derive estimates of levels of urbanization that are as comparable as possible. For example, Table 2 presents alternative estimates of urbanization for Thailand that differ rather widely from the estimates normally used, because by comparison with other countries' definitions, the official definitions of urban places used in Thailand appear to understate the level of urbanization.

It is likely that because of the definitions of "urban" used in each country, the level of urbanization in the Philippines is somewhat overstated in this paper relative to that of the other countries, the level in Taiwan overstated (especially for earlier periods) by some of the estimates used later, and the level in Indonesia and the Republic of Korea understated.[2] Moreover, the problem of alternative boundaries of urban places could not be adjusted for. Are the housing estates near Rangsit (north of Bangkok) part of a town, part of the Bangkok metropolitan area, or a rural area? Presumably they are still classified as rural. To the southeast of Bangkok, the city of Cholburi spills well over its official boundaries. Similarly, in Indonesia the areas of mixed agriculture-industry and service activities between Jakarta and Tangerang in the west, Bekasi in the east, and Bogor in the south are

2. For Indonesia, see ESCAP (1981:10–12, Ch. 3). For Korea, the United Nations (1980 and 1982), Kim and Sloboda (1981), and Mills and Song (1979) give almost identical figures for level of urbanization, though the United Nations cites a definition of urban that includes all municipalities with 5,000 or more inhabitants, whereas the other studies cite a definition that includes all municipalities with 50,000 or more inhabitants. It would appear that the United Nations is in error, and that the definition of urban in Korea is more restrictive than that used for the other countries in Tables 1 and 2.

considered part of the "Jabotabek" metropolis for planning purposes, but the census continues to classify them as rural. One can assume that the level of urbanization in all the countries under consideration is somewhat understated for similar reasons, but it is unlikely that the degree of understatement is identical in each country.

If the urban definitions are a problem, data on employment structure are worse. Elsewhere, I have discussed the Indonesian data problems at length (Jones, 1978, 1981). The problems with the Indonesian data are so great that the use of employment/output coefficients to trace trends in sectoral labor absorption and to project this absorption into the future can be highly misleading. Much of the difficulty in Indonesia, as elsewhere, relates to the classification of those who work in agriculture only seasonally or erratically, particularly those who spend much of their time as homemakers or in handicrafts or trading activities. The percentage of workers in agriculture in Thailand is somewhat exaggerated compared with most other countries because of the more catholic procedures used there to classify females as agricultural workers. In some countries, such as Pakistan and Bangladesh, women's work tends to be understated by male respondents and male interviewers (Nasra Shah and Makhdoom Shah, 1980; Khuda, 1978), but the effect of this on the measured structure of the labor force depends on whether the relative understatement is greater in the agricultural or nonagricultural sector.

In this paper, great care has been taken to establish estimates of urbanization (used in Tables 1 and 2) and of employment structure (used, along with the urbanization data, in Tables 4 and 5) that are as internally consistent and as comparable across countries as possible. Even so, deficiencies clearly remain and some of them may be serious; in particular, the range of possible estimates for Taiwan is too wide to lead to any clear conclusions.[3] Therefore, readers should use the tables

3. The Taiwan example illustrates the problems of data inconsistency that must be resolved when data from several sources are used. In 1958–60, according to Simon Kuznets (in Galenson, 1979: Table 1.12), 44 percent of Taiwan's employed population was in agriculture and 20 percent in industry. The World Bank's *World Tables* gave these figures for 1960 as 56 percent and 11 percent, respectively. The Kuznets figure was derived from the regular labor force surveys, whereas the World Bank figure was derived from the annual year-end household registration data. The reason for the discrepancy is not clear. Two sets of data are also available for the level of urbanization. When the two sets of urbanization data are compared with the two sets of labor force data, four widely differing sets of estimates can be derived. They are all shown in Tables 4 and 5.

presented later in the paper with caution, for broad comparisons, keeping the limitations of the underlying data in mind.

RECENT TRENDS IN ASIAN URBANIZATION

Asian countries are as variable in urbanization levels and patterns as they are in most other respects. The present paper concentrates on the countries of Southeast Asia and the Indian subcontinent, and also on the Republic of Korea and Taiwan because of the latter two countries' tendency to follow Japan in urbanization and economic structure.

The countries of the Indian subcontinent—India, Pakistan, Bangladesh, and Sri Lanka—have urbanized slowly over this century, though the pace of change has quickened a little over the decade of the 1970s (Table 1). Their slow rates of urbanization have paralleled slow economic development and even slower changes in the proportion of the workforce employed in the agricultural sector. During the 80-year period in which these changes in urbanization have been gradually taking place, the countries' rural populations have increased massively (in India alone from 213 million in 1901 to 522 million in 1981), implying that a given increase in the level of urbanization now will require the shift of much larger numbers of workers than was the case in the past. The patterns provide no reason to doubt that rural populations will continue to grow until at least the end of the century and probably well beyond. This growth could be avoided only by sharper declines in birth rates than appears likely or by a quite dramatic acceleration in economic growth characterized by labor-intensive industrialization, drawing large migration flows from rural to urban areas.

In Southeast Asia the picture is more diverse (Table 2). In Vietnam, there appears to have been a slight decline in the level of urbanization since the Communist takeover in the South. In Indonesia, Thailand, the Philippines, and Malaysia, modest increases in urbanization have taken place in the past quarter of a century. (The picture in Malaysia is complicated by Singapore's earlier role in the Malaysian urban hierarchy and by the forced urbanization during the Emergency period. See Hirschman, 1976.) Of these countries only Malaysia is yet approaching the 50 percent level of urbanization beyond which there is some prospect for cessation of rural population growth.[4]

4. This is only a rough rule of thumb, but for countries with rates of population growth exceeding 2 percent per annum and with less than 50 percent of the population in urban areas, sustained increases in the urban population exceeding 4 percent per annum would be required to prevent the rural population

TABLE 1. Levels of urbanization: South Asian countries, 1900–80
(% of total population)

Year	Bangladesh	India	Pakistan	Sri Lanka
1901	2.4	10.8	9.8	11.6
1911	2.5	10.3	8.7	13.2
1921	2.6	11.2	9.8	14.2
1931	3.0	12.0	11.8	13.9
1941	3.7	13.8	14.2	15.4[a] (20.5)[b]
1951	4.3	17.3	17.8	15.3[c] (21.1)[b]
1961	5.2	18.0	22.4	19.1[d] (21.5)[b]
1971	8.8[e]	19.9	25.2	22.4
1981	11.2	23.7	28.3	27.8
1981 urban population (millions)	9.9	156.2	23.7	4.1

NOTE: Definitions of urban:

Bangladesh
Centers with 5,000 or more inhabitants and with such urban characteristics as streets, plazas, sewerage systems, water-supply systems, and electric lights.

India
Towns—that is, places with a municipal corporation, municipal area committee, town committee, notified area committee, or cantonment board; also all places having 5,000 or more inhabitants, a density of not less than 1,000 persons per sq mi or 390 per sq km, pronounced urban characteristics, and at least three-fourths of the adult male population employed in pursuits other than agriculture.

Pakistan
Municipalities, civil lines, cantonments not included within municipal limits, any other continuous collection of houses inhabited by not fewer than 5,000 persons and having urban characteristics, and also a few areas having urban characteristics but fewer than 5,000 inhabitants.

Sri Lanka
Municipalities, urban councils, and towns.

a. 1946.

b. Figures in parentheses are data adjusted by Gunatilleke for the probable earlier populations of towns newly awarded urban status in the intercensal period.

c. 1953.

d. 1963.

e. 1974.

SOURCES: Bose (1975: Table 1), Chaudhury (1980: Table 2), ESCAP (1980b: Table 19), 1980 Censuses of India and Pakistan, Gunatilleke (1973); Karim and Shah (1982: Table 1).

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from increasing. The required rate of increase rises with higher rates of population growth and with lower initial proportions of urban population.

Of all the countries included in Tables 1 and 2, only one experienced sharp increases in the level of urbanization in the 1960s, and that was the Republic of Korea, where rapid urbanization continued until 1980. Korea's rapid urbanization appears to have been due to its spectacular industrialization and economic development during the period. But similar rates of economic development in Taiwan during the 1960s (Little, 1979: Fig. 7.1) do not appear to have led to a comparable pace of urbanization. Perhaps the difference is related to Taiwan's higher level (and more even spread) of urbanization to begin with, combined with heavier investment in the agricultural sector in the 1960s and financially stronger local governments (Renaud, 1981: 47). It may also be due in part to Taiwan's more decentralized pattern of industrialization, with small- to medium-scale and more labor-intensive manufacturing enterprises widely distributed through the rural areas (Ho, 1979).

Malaysia's urbanization was quite rapid during the 1970s, although dampened by heavy government investment in land settlement schemes and rural development projects. In India and Sri Lanka the pace of urbanization appeared to pick up slightly in the 1970s. This also appeared to be the case in Indonesia, but the urban populations enumerated in the 1971 and 1980 censuses cannot be directly compared because of a change in the criteria used to categorize small towns as urban or rural. That the 50 *kotamadya* (municipalities) increased their share of the total population only from 12.4 percent in 1971 to 14.2 percent in 1980, despite a number of boundary extensions in the interim, suggests a slow increase in urbanization. The available evidence for other countries does not suggest a rapid pace of urbanization during the 1970s.

URBANIZATION AND THE MOVEMENT OUT OF AGRICULTURE

Discussion of urbanization in Asia in the 1950s and 1960s was dominated by the overurbanization thesis. Simply stated, the thesis holds that urbanization is outpacing industrialization in developing countries in the sense that urban fractions of the population are larger in relation to industry's share of the workforce than they were at earlier times in currently developed countries (Hoselitz, 1953, 1957; see also Hauser, 1957).

The United Nations (1980) has examined this relationship in the

TABLE 2. Levels of urbanization: Southeast and East Asian countries, 1920–80
(% of total population)

Year	Thailand[a]	Philippines	Indonesia	Malaysia[b]	Vietnam	Republic of Korea[c]	Taiwan[d]
1920	u	—[e]	5.8	14.6[f] (14.0)	u	3.3	u
1930	u	u	6.7	16.9[g] (15.0)	u	4.5 (6.9)	u
1940	u	21.6[h]	u	u	u	11.6 (16.0)	u
1945	(9.9)[i]	u	u	21.3[i] (19.0)	u	14.5	u
1950	(10.5)	27.1	12.4	u	u	18.4	u
1955	(11.5)	28.7	13.5	32.0[j] (26.5)	u	24.5	56.7 (32.2)
1960	16.2 (12.5)	30.3	14.8[k]	u	u	28.0	58.4 (34.7)
1965	18.3	31.6	15.8	u	u	33.9	59.7 (36.8)
1970	20.8 (14.7)	32.9	17.2[l]	34.1 (28.7)	u	41.1	62.4 (40.5)
1975	22.5[m]	34.3	18.4[n]	u	20.6[n]	48.4	64.9 (44.2)
1980	24.5[p] (17.3)	36.2	22.4	41.0 (37.4)	19.1[q]	54.8	66.8 (47.2)
1980 urban population (millions)	11.4	17.8	32.8	4.5	10.1	21.0	11.9

NOTE: Definitions of urban:

Thailand
Municipal areas, plus sanitary districts with populations exceeding 5,000 and population density of at least 1,000 per sq km.

Philippines
Baguio, Cebu, and Quezon City; all cities and municipalities with a density of at least 1,000 persons per sq km; administrative centers, *barrios* (villages) of at least 1,000 inhabitants that are contiguous to the administrative center, in all cities and municipalities with densities of at least 500 persons per sq km; administrative centers and *barrios* of at least 2,500 inhabitants that are contiguous to the administrative center, in all cities and municipalities with at least 20,000 inhabitants; all other administrative centers with at least 2,500 inhabitants. For further details on urban definitions in the Philippines, see World Bank (1976:61–7).

Indonesia
Municipalities, regency capitals and other places with urban characteristics. A new procedure for defining places with urban characteristics was used in 1980.

Malaysia
Gazetted areas with populations exceeding 5,000.

Vietnam
Not available.

Republic of Korea
Seoul City and administrative *shi* (cities) of 50,000 or more inhabitants.

Taiwan
Population not living in rural townships.

u—data unavailable.

a. Figures in parentheses are for municipal areas.
b. Peninsular Malaysia. Figures in parentheses are for populations living in gazetted areas of over 10,000 inhabitants.
c. Figures in parentheses are for populations living in administrative areas with 20,000 or more inhabitants.
d. Figures in parentheses are for populations not living in rural or urban townships.
e. Percentage was 13.1 in 1903.
f. 1921.
g. 1931.
h. 1939.
i. 1947.
j. 1957.
k. 1961.
l. 1971.
m. 1974.
n. 1976.
p. 1978.
q. 1979.

SOURCES: Robinson and Wongbuddha, 1980:40, Table 1; Herrin, 1981; Hugo, 1978: Table 111.1; Hirschman, 1976:447; Jones, 1982:794; United Nations, 1980: Table 50; United Nations, 1982: Table 1; Liu, 1982; Kim and Sloboda, 1981: Table 19; Mills and Song, 1979: Table 2.1.

TABLE 3. Regional relationships between urbanization of population and industrialization of the labor force: 1950 and 1970

Major area and region	1950			1970			Change, 1950–70 (ratio, (6)/(3)) (7)
	% of labor force in industry[b] (1)	% of population living in urban areas (2)	Ratio, (1)/(2) X 100 (3)	% of labor force in industry[b] (4)	% of population living in urban areas (5)	Ratio, (4)/(5) X 100 (6)	
World[a]	18.8	34.0	55.2	24.2	41.8	57.8	1.045
Africa							
Eastern Africa	3.7	5.5	66.5	6.3	10.7	59.1	0.888
Middle Africa	6.0	14.6	40.3	9.5	25.2	37.9	0.941
Northern Africa	10.4	24.5	42.6	15.7	36.6	43.0	1.010
Southern Africa	24.6	37.3	65.9	26.3	43.8	60.2	0.914
Western Africa	6.1	10.1	60.1	11.3	17.3	65.4	1.089
Latin America							
Caribbean	16.7	33.1	49.7	21.1	45.1	46.8	0.941
Middle America	16.0	39.7	40.3	21.4	53.9	39.6	0.982
Temperate South America	31.1	64.8	47.9	31.1	77.9	40.0	0.833
Tropical South America	16.2	36.3	44.7	19.6	56.0	34.9	0.782
Northern America	36.5	63.8	57.2	34.2	70.4	48.5	0.848
East Asia[a]							
Japan	23.6	50.2	47.0	34.5	71.3	48.4	1.028
Other East Asia	13.3	28.6	46.5	25.4	47.5	53.5	1.150

South Asia							
Eastern South Asia	7.1	14.8	48.2	10.1	20.0	50.2	1.042
Middle South Asia	8.1	15.6	52.3	13.0	19.4	67.2	1.286
Western South Asia	13.4	23.4	57.3	18.4	44.5	41.4	0.722
Europe							
Eastern Europe	26.7	41.5	64.4	37.6	53.3	70.6	1.095
Northern Europe	44.8	74.3	60.2	42.6	81.3	52.5	0.871
Southern Europe	21.5	41.0	52.4	31.0	52.9	58.6	1.118
Western Europe	39.7	63.9	62.2	44.5	74.4	59.8	0.962
Oceania	31.2	61.2	50.9	30.4	70.8	42.9	0.843
USSR	21.6	39.3	55.0	37.6	56.7	66.4	1.207

NOTE: Percentages presented in the United Nations (1980) source as correct to two decimal places have been rounded to one decimal place to avoid a spurious impression of accuracy.

a. Excluding China.

b. Industry includes transport.

SOURCE: United Nations (1980: Table 9).

light of more recent evidence. Although, as argued below, industry/urban ratios are not theoretically very meaningful, they are discussed here briefly because of the attention they have received in the overurbanization debate. The United Nations' table presenting comparisons between 1950 and 1970 for all the world's regions (United Nations, 1980: Table 9) is therefore reproduced as Table 3.

One is struck by several aspects of this table. The first is the rather large differences in industry/urban ratios between developing regions, ranging in 1970 from .35 in tropical South America to .50 in Southeast Asia and .67 in Middle South Asia. In Latin America, changes in the ratio between 1950 and 1970 indicate that urbanization has been outpacing industrialization. (See also Jansen and Paelinck, 1981.) The main factor is a deficiency of nonagricultural occupations in rural areas of Latin America. In Middle South Asia, by contrast (and paradoxically, this is the region to which the original overurbanization thesis was applied), urbanization has not kept pace with industrialization. By 1970, Middle South Asia was more industrialized but slightly less urbanized than Southeast Asia.

The regional differences shown in Table 3 no doubt mask even wider differences between individual countries. Table 4 presents the same ratios as in columns (3) and (6) of Table 3 for ten Asian countries, based on my efforts to derive consistent data sets. The differences between them are wide and the trends over time are variable. Table 4 indicates that in 1960, the three countries of the Indian subcontinent for which data are available had higher ratios than the other countries, thus supporting the data in Table 3 that show them to be relatively underurbanized. Regarding the trend before 1970, however, the two sources diverge. Table 4 shows that ratios in all four countries declined during the 1960s, the reverse of the trend shown for Middle South Asian countries as a whole in Table 3. The figures in Table 3 refer to the longer period of 1950–70, and to a larger group of countries than the four included in Table 4. Even so, there does appear to be an inconsistency between the trends, which suggests possible discrepancies in the data used by the two sources.

Whereas the ratios for all South Asian countries in Table 4 declined, the trends in East and Southeast Asian countries were mixed, though more ratios rose than fell. Thus there was a degree of convergence in the ratios.

Although national idiosyncracies in definitions of the urban popula-

TABLE 4. Relationship between urbanization of population and industrialization of the labor force: selected Asian countries, various years

Country	% of labor force in industry ÷ % of population urban × 100							Direction of change between earliest and latest year
	1946	1955	1960	1965	1970	1975	1980	
Philippines	u	58.5[a]	51.7	u	47.7	44.0	47.2	↓
Indonesia	u	u	54.1[b]	u	41.9[c]	u	56.2	↑
Malaysia (1)	63.8[d]	51.9[e]	u	u	55.1	u	62.0	↓
Malaysia (2)	71.6	62.6[e]	u	u	65.5	u	69.9	↓
Rep. of Korea	u	u	33.2	46.3[f]	51.3	u	52.7	↑
Taiwan (1)	u	30.0	34.1	39.2	45.4	54.7	62.6	↑
Taiwan (2)	u	17.6	19.5	20.3	25.5	36.4	47.0	↑
Taiwan (3)	u	52.8	57.3	63.6	69.9	80.3	88.6	↑
Taiwan (4)	u	31.1	32.9	32.9	39.3	53.4	66.5	↑
Thailand	24.2[d]	u	35.8	u	35.1[g]	u	36.0	↑
India	70.5[h]	u	61.1	u	55.3	u	54.9	↓
Pakistan	u	u	79.9	u	74.2	u	70.7	↓
Bangladesh	u	u	63.5	u	39.8	u	u	↓
Sri Lanka	76.0	86.9[i]	u	69.6[j]	67.9[c]	u	51.9	↓

NOTES:

Malaysia (1) figures are based on the main estimate of urbanization given in Table 2.

Malaysia (2) figures are based on the alternative estimate of urbanization given in parentheses in Table 2. All Malaysian figures refer to Peninsular Malaysia.

Taiwan (1) figures represent high estimate of urbanization and high estimate of employment in industry (labor force survey data).

Taiwan (2) figures represent high estimate of urbanization and low estimate of employment in industry (end-of-year household registration data).

Taiwan (3) figures represent low estimate of urbanization and high estimate of employment in industry (labor force survey data).

Taiwan (4) figures represent low estimate of urbanization and low estimate of employment in industry (end-of-year household registration data).

u—data unavailable.

a. 1956.
b. 1961.
c. 1971.
d. 1947.
e. 1957.
f. 1966.
g. 1969.
h. 1950.
i. 1953.
j. 1963.

SOURCE: Individual country tables available from author.

tion no doubt serve to widen the differences among countries (and, to a lesser extent, regional differences) shown in Tables 3 and 4, the relationship between industrial employment and urban residence is not so clearcut in interregional and temporal comparisons as to be reliable in predicting future trends in any country or region. This point is reinforced if one compares present-day developing countries with developed countries at a similar stage in their urbanization process. It is estimated that 21.6 percent of the labor force of the currently developed countries was engaged in industry in 1900, at a time when the urban percentage in those countries was 27.3 (United Nations, 1980:19). Clearly, the "typical" 1:2 ratio between industry's share of the labor force and urban areas' share of total population did not prevail at that time. Nor, in fact, does it prevail today in the developed countries.

Although the United Nations study stresses the comparison between urbanization and employment in industry, theoretically a more meaningful comparison is between urbanization and nonagricultural employment. It is only agricultural occupations that are, by virtue of their extensive land requirements, confined almost exclusively to rural areas. Both secondary and tertiary activities are much more flexible in their choice of location. Moreover, technological developments in the twentieth century appear to have placed a ceiling on the share of the labor force likely to be reached by the secondary sector. Developing countries are therefore tending to skip Colin Clark's (1957) intermediate stage, where the share of employment in industry increases sharply, and urbanization levels may therefore become more closely associated with the tertiary than with the secondary share of the labor force (Jakobson and Prakash, 1971; Moir, 1976).

Table 5 presents, for the same countries as in Table 4, data on the relationship between urbanization and the total nonagricultural share of the workforce. As with the previous measure, there is a rather wide range in the nonagriculture/urban index. Compared with the mean, Thailand, the Republic of Korea, and, according to measures (1) and (2), Taiwan, appear "overurbanized," whereas Sri Lanka and Indonesia are relatively "underurbanized," though these differences should not be taken to imply that the mean necessarily represents a norm or optimum state of affairs. (The low figure for Thailand is undoubtedly inflated by the understatement of the share of employment in nonagricultural industries noted earlier, though this would be offset to

TABLE 5. Relationship between urbanization of population and decline in agricultural share of labor force: selected Asian countries, various years

Country	% of labor force in agriculture ÷ % of population urban X 100								Direction change between earliest and latest year
	1946	1950	1955	1960	1965	1970	1975	1980	
Philippines	u	u	152[a]	130	u	151	142	149	u
Indonesia	u	u	u	180[b]	u	181[c]	u	199	↑
Malaysia (1)	162[d]	u	126[e]	u	u	145	u	154	↓
Malaysia (2)	182[d]	u	152[e]	u	u	172	u	169	↓
Republic of Korea	u	u	u	118	124[f]	121	u	120	u
Taiwan (1)	u	u	105	96	95	101	108	118	↑
Taiwan (2)	u	u	69	74	76	89	98	107	↑
Taiwan (3)	u	u	168	161	154	156	159	166	u
Taiwan (4)	u	u	122	124	124	137	143	152	↑
Thailand	109[d]	u	u	103	u	105[g]	u	98	↓
India	u	173	u	150	u	136	u	131	↓
Pakistan	u	u	u	175	u	163	u	152	↓
Bangladesh	u	u	u	254	u	160	u	u	↓
Sri Lanka	257	u	283[h]	u	231[i]	209[c]	u	165	↓

NOTES: Same as in Table 4, except that nonagricultural employment should be substituted for industry in the Taiwan notes.

u—data unavailable.

a. 1956.
b. 1961.
c. 1971.
d. 1947.
e. 1957.
f. 1966.
g. 1969.
h. 1953.
i. 1963.

SOURCE: Individual country tables available from author.

some extent by the tendency for the level of urbanization in Thailand to be understated as well.) As a broad generalization, the poorer, more agricultural countries (Indonesia, Sri Lanka, Pakistan, and Bangladesh) appear underurbanized by comparison with the wealthier countries, though India is an exception. The tendency in most of the countries is for the index to fall over time (i.e., for urbanization to grow faster than the shift out of agriculture); but in about half of the countries the trend is too slight to indicate any significant change, in view of the unreliability of the underlying data.

Few clearcut conclusions emerge from Table 5 therefore, but the important point to note is the wide range in the ratios, indicative of a wide range in the relationship between urbanization and the shift out of agriculture and suggestive of some flexibility in the way this relationship might work out over time in any particular country.

Analytically, how should one view the relationship between changing employment structure and urbanization? Although the United Nations study, as noted earlier, does not directly analyze the relationship between urbanization and nonagricultural employment as a whole, it does throw light on this question in a chapter that examines the employment structure of urban and rural areas in different parts of the world. In countries still largely agricultural (more than 50 percent of the total labor force in agriculture), a substantial part of total nonagricultural employment is in rural areas: around half of all employment in industry and almost half of all employment in sales and services (United Nations, 1980: Table 25; see also Anderson and Leiserson, 1980). In Sri Lanka three quarters of manufacturing employment in 1971 was in rural areas (ESCAP, 1980b:8). Agriculture, of course, provides most rural employment in these countries, but even in countries with as much as one-half to two-thirds of their labor force in agriculture, one-quarter of rural employment is in nonagricultural occupations. The situation in South and East Asian developing countries for which data are available is shown in Table 6.

In developed countries, where agriculture provides only a small proportion of total employment, more than half of all employment in rural areas is in nonagricultural activities, and in some of them this fraction reaches three-quarters. These cross-sectional data suggest that there is an occupational transition in rural areas as development proceeds, with the rural employment structure displaying a steadily increasing proportion of nonagricultural employment. Decomposing the

TABLE 6. Occupational composition of urban and rural labor force: selected Asian countries

Country, year, and urban/rural	Agriculture	Manufacturing & transport	Professions & administration	Clerical & sales	Traditional services	Unknown
India, 1961						
Total	72.9	15.9	2.7	5.3	3.0	0.2
Urban	12.3	43.9	9.8	23.0	10.5	0.5
Rural	82.8	11.3	1.5	2.5	1.7	0.2
Indonesia, 1971						
Total	59.6	11.8	5.6	13.3	3.8	6.0
Urban	9.5	25.4	8.2	34.7	11.7	10.6
Rural	68.5	9.4	5.2	9.4	2.4	5.1
Indonesia, 1980						
Total	54.7	18.8	3.2	16.6	4.6	2.1
Urban	9.8	33.6	6.6	34.9	11.1	4.0
Rural	65.2	15.3	2.3	12.3	3.1	1.8
Peninsular Malaysia, 1970						
Total	46.1	18.9	5.2	12.9	7.9	9.1
Urban	6.7	31.2	10.2	26.6	15.3	10.0
Rural	61.3	14.1	3.3	7.6	5.0	8.7
Sri Lanka, 1953						
Total	51.3	16.3	4.8	10.8	14.7	2.1
Urban	5.9	24.1	9.7	26.1	30.5	3.7
Rural	59.6	14.9	3.9	8.1	11.8	1.8

TABLE 6. *(continued)*

Country, year, and urban/rural	Agriculture	Manufacturing & transport	Professions & administration	Clerical & sales	Traditional services	Unknown
Sri Lanka, 1970						
Total	50.8	24.5	6.0	11.2	7.4	0.2
Urban	8.8	38.2	12.2	26.5	14.1	0.2
Rural	58.7	21.9	4.8	8.3	6.1	0.2
Thailand, 1954						
Total	88.0	4.2	1.5	4.4	1.1	0.8
Urban	12.2	31.3	9.1	30.5	10.2	6.7
Rural	92.6	2.6	1.1	2.8	0.6	0.4
Thailand, 1970						
Total	81.3	7.6	2.5	5.9	2.5	0.1
Urban	7.9	31.0	14.9	30.8	14.9	0.5
Rural	89.4	5.1	1.2	3.1	1.2	0.1

SOURCES: United Nations (1980: Table 51); Biro Pusat Statistik (1982: Table 48).

changes in the occupational structure of the total labor force into three components:

(a) the amount due to changes in the occupational structure of the rural labor force,
(b) the amount due to changes in the occupational structure of the urban labor force, and
(c) the amount due to shifts in the rural/urban residential composition of the labor force,

one finds that changes in urban labor force structure contribute a relatively minor share of the overall changes in occupational structure, whereas the remaining two components contribute roughly equal amounts for all occupations except manufacturing, where two-thirds of the growth is attributable to increased manufacturing employment in the rural labor force (United Nations, 1980:70).

Time-series data support the occurrence of a rural occupational transition (United Nations, 1980: Table 29) in both developed and developing countries. In Japan, the proportion of the rural labor force in agriculture fell from 54 percent to 38 percent in just ten years (1960–70). In the United States, a net exporter of food, by 1970 only 11 percent of the rural labor force worked in agriculture.

The rural labor force, then, does not simply passively release agricultural workers for nonagricultural employment in the towns. Rather, it undergoes major modifications in occupational structure during the course of economic development. For the purpose of this paper, a key question is whether, in the large, poor countries that are still predominantly agricultural and rural—India, Bangladesh, and Indonesia, for example—elements of this "occupational transition" of rural areas can be captured despite the prospects of only a slow shift in their overall employment structure away from heavy dependence on agriculture; in other words, whether the nexus between urbanization and the shift in the overall employment structure away from agriculture can be broken to some extent. The evidence presented earlier about the wide range in both industry/urban ratios and nonagricultural employment/urban ratios suggests that theoretically it should be possible.

HOW INEXORABLE IS THE SHIFT OUT OF AGRICULTURE?

So far I have discussed the relationship between urbanization and the decline in agriculture's share of employment. But how inexorable, in

fact, is the shift out of agriculture? The Clark-Fisher hypothesis, documented as well by Kuznets (1966), is that

> as time goes on and countries become more economically advanced, the numbers engaged in agriculture tend to decline relative to the numbers in manufactures, which in turn decline relative to the numbers in services (Clark, 1957:492).

Most explanations of this hypothesis distinguish between a demand explanation and a supply explanation. On the demand side, the income elasticity of demand for food and agricultural products is lower than it is for products of the nonagricultural sectors; and if there is no change in the relative labor productivities, the agricultural sector will employ a declining proportion of the labor force. On the supply side, labor-saving technological developments, it is argued, have tended to occur first in agriculture. Later, industrial technology has been increasingly automated so that labor is again released to the services sector. It can be shown that in a closed economy with full employment

> there is a simple relationship, namely that the variation in the agricultural share of the labour force depends on whether the ratio of the rates of growth of productivity in the [agricultural and nonagricultural] sectors is greater or less than the ratio of the respective income-elasticities of demand (Booth and Sundrum, 1980:3).

Or, in algebraic form,

$$\lambda_a' - \lambda_a = \frac{\lambda_a \lambda_b \, (R_b \epsilon_a - R_a \epsilon_b)}{\lambda_a \epsilon_a \, (1 + R_b) + \lambda_b \epsilon_b \, (1 + R_a)}$$

$$\lambda_a' \lesseqgtr \lambda_a \text{ according as } \frac{R_a}{R_b} \gtreqless \frac{\epsilon_a}{\epsilon_b}$$

where λ_i is the share of the labor force, ϵ_i the elasticity of demand, and R_i the rate of growth of productivity, in the i-th sector ($i = a$ for agriculture, $= b$ for industry).

Since the income elasticity of demand for agricultural goods is normally less than unity and the income elasticity of demand for nonagricultural goods greater than unity, in order that the share of the labor force in agriculture decrease over time, it is not necessary that R_a be equal to or greater than R_b but only that the ratio R_a/R_b be greater than ϵ_a/ϵ_b, which is less than unity. This condition does require some minimum rate of growth of labor productivity in agri-

culture, a minimum that has been exceeded in the historical experience of the developed countries. Booth and Sundrum argue, however, that "it cannot lightly be assumed that the rate of growth of labour productivity in agriculture in these LDC's [less developed countries] will exceed this critical minimum rate in the near future, or even that this is desirable as a medium-term policy goal" (p. 5).

From an analysis of trends in employment structure in developed countries, Booth and Sundrum conclude that the rapid fall in the agricultural share of employment was due partly to the factors highlighted in their model (low income elasticities of demand for agricultural goods, which caused R_a/R_b to exceed ϵ_a/ϵ_b even though rates of growth of productivity in agriculture were generally lower than those in the nonagricultural sector), partly to the reduction of underemployment or surplus labor that was included in the statistics of agricultural employment, and partly to the increasing reliance on imports of agricultural goods.

As for the developing countries, time-series data for India and the Republic of Korea show little change over long periods before World War II. More recent data (1960–77) for a larger number of developing countries show that in low-income countries the high agricultural share of employment remained relatively stable until 1977, but in middle-income countries the share declined quite rapidly. In the low-income countries, agricultural productivity has risen very slowly; surplus labor in rural areas also inflates the figures for the agricultural share of the labor force. In the middle-income countries, the growth of agricultural productivity has been more rapid; but the decline in the proportion of workforce in agriculture was almost entirely due to demand factors, except in those countries where the share of agriculture in employment was already less than half in 1960. In these middle-income countries, labor shed by the agriculture sector went primarily into the services sector.

Booth and Sundrum recognize that the percentage of the labor force in agriculture will inevitably decline over long periods, because

> the income elasticity of demand for food will reach near zero values with growth of income and because for most regions the technology is available by which the demand for foodstuffs and the other principal products of the agricultural sector can be met by a much smaller fraction of the labour force than is at present engaged in agriculture in most LDC's (p. 20).

But they argue that until the end of this century, "we cannot assume

either that ϵ_a values in LDC's will decline rapidly relative to ϵ_b values or that R_a will even be positive, let alone quite high relative to R_b" (p. 20). Policies of income transfers to increase the purchasing power of the poor could prevent ϵ_a from declining, and adoption only of the more labor-using technological developments in agriculture could hold down R_a relative to R_b. Thus at least in the more densely populated parts of the developing world the proportion of the labor force in agriculture could conceivably even increase in the next two decades.

DISASSOCIATING URBANIZATION FROM THE SHIFT OUT OF AGRICULTURE

What is the import of this rather provocative conclusion for the urbanization prospects of the countries of South and Southeast Asia? Most importantly, it suggests that in the South Asian countries and Indonesia, where proportions urban are low and the proportions of the workforce in agriculture high, the shift of the employment structure away from agriculture may continue to be slow, because productivity will continue to rise more rapidly in the nonagricultural sector than in agriculture. (In Indonesia, however, it may be necessary to draw a distinction between densely settled islands of Java, Bali, and Lombok and the outer islands in this respect. Productivity growth in agriculture could be much higher in the latter.) A quite different pattern is already being observed in the Republic of Korea and Malaysia, where burgeoning industrialization and service-sector employment are drawing workers out of agriculture and creating an incipient agricultural labor shortage, with consequent labor-saving technological changes in agriculture.[5] Here the trend toward a Western employment structure appears to be inexorable. Countries such as Thailand and the Philippines are likely to occupy an intermediate position.

Do the expected shifts in employment structure necessarily imply an inexorable shift to Western levels of urbanization—a rapid shift in the Republic of Korea and Malaysia, a gradual shift in the Philippines and Thailand, and a slow shift in South Asia, where the shedding of labor by the agriculture sector will be modest (modest, that is, in proportionate terms but large in absolute terms because of the large

5. Malaysia's Fourth Five-Year Plan estimates that agriculture's share of employment fell from 50.5 percent in 1970 to 40.6 percent in 1980. (Government of Malaysia, 1981: Table 4-6). For evaluation of the rural labor shortage in Malaysia, see Lim (1981) and Jones and Ward (1981).

populations involved)? The question is important, especially for the South Asian countries, because with growth rates of population and labor force exceeding 2 percent per annum, even a modest shedding of labor by the agricultural sector, if it must be accommodated in urban areas, implies a growth rate of urban populations of 3 percent per annum or more, enough to double their size in 23 years or less. Moreover, as noted earlier, Western levels of urbanization in the larger countries imply metropolises of truly vast size.

The earlier analysis of the relationship between urbanization and changing employment structure suggests that the decline in agriculture's share of the labor force does not have to be followed by an equivalent increase in urbanization. The three-way decomposition of the change in occupational structure of the labor force noted earlier implies that the shift out of agriculture does not have to be accommodated by shifts in the rural–urban residential composition of the labor force; alternatively it can be accommodated by changes in the occupational structure of the rural labor force.

How might such changes be brought about? Basically, just as developing countries have sidestepped the stage in the Clark-Fisher model where employment in industry increases at the expense of agriculture and moved straight to the stage at which labor shed by agriculture shifts directly into services, so too can they modify the traditional urbanization–occupation nexus during the structural transformation of their economies. The latecomers in the development process can take advantage of the most up-to-date technologies. Developments in transport mean that many people even in poor countries can commute up to 50 miles to work, an option not available in industrializing nineteenth-century Europe. Besides enabling the bedrooms of the urban workers to be located further from the heart of the city, transport developments facilitate patterns of circular mobility that do not require continuous residence in the city (Hugo, 1981, 1982; Stretton, 1981; Singhanetra-Renard, 1981). They also facilitate the siting of factories and other nonagricultural activities in the rural areas, where they can take advantage of the large, and increasingly educated, workforce.

Thus the rural–urban dichotomy, so clearcut in the medieval fortress towns of Europe, begins to lose its meaning. Developing Asian countries are already copying the Japanese pattern whereby much of the rural workforce is engaged in both agricultural and nonagricultural

activities. In Japan, Taiwan, and the Republic of Korea, off-farm incomes are about 60 percent, 50 percent, and 40 percent, respectively, of total farm-family incomes (Oshima, 1976).[6] Taiwan has been remarkably successful in diversifying the income sources of farm households, through both an increase in commuting and a broadening of employment opportunities in the rural areas themselves (Ho, 1979; Chinn, 1979). More recently, Korea's industrial location policy, fostering decentralization of industry, and the "Samaul Undong" (New Community Movement) appear to have been successfully enlarging off-farm employment opportunities (Nam and Ro, 1981: 654–56).

Even in the poorer parts of rural Asia, such patterns are of considerable importance. A recent study in Kelantan, the poorest state of Malaysia, showed that 50 percent of the income of the paddy farming families surveyed was derived from off-farm activities (Shand and Hussein, forthcoming). In the Philippines, 28 percent of the rural labor force was classified in nonagricultural activities in 1972 and "perhaps 15 per cent of rural families whose main source of income is in primary activities have additional income from secondary or tertiary activities" (ILO, 1974:508). In the state of Karnataka in India, off-farm employment is becoming increasingly important in larger villages on main roads (Caldwell et al., 1982:691). In Bali, an extraordinary range of "microeconomic niches" is used to supplement the meager income from tiny farms (Poffenberger and Zurbuchen, 1980: 107–20). In Java, 28 percent of the rural labor force was classified in nonagricultural activities in 1971. Some of the manufacturing employment undoubtedly resulted from factory overspill into areas classified as rural (for example, along the Jakarta-Bogor and Surabaya-Sidoardjo roads). However, this was probably a fairly small component.

> Rural manufacturing is highly diversified, running the gamut from small textile and cigarette factories to batik-making and brickmaking, repair of bicycles and agricultural implements, production of coconut oil or *tempe* (fermented soya bean cakes) to weaving of mats and hats. Trading is an activity which provides supplementary income for large numbers of rural families and the main source of income for many others. Carpenters and builders are active throughout the rural areas, as are barbers, dukuns,

6. Somewhat lower figures are mentioned for 1975 in Ho (1979:77) and Chinn (1979:299): 52 percent for Japan, 4[illegible]ercent for Taiwan, and only about 23 percent for Korea.

> midwives, and others in service activities of various kinds. Household service opportunities are available in the wealthier rural households or in neighbouring towns or cities. The rural-based transport network is very labour-intensive, with *becaks, dokars,* even in West Java the *ojeg* transport system (use of bicycles to transport up to 200 kg. loads (Jones, 1980:529).

In the Yogyakarta region, the growth of small, labor-intensive manufacturing industries along the main roads has been noted (McDonald and Sontosudarmo, 1976:84), although it is not clear whether some of this development has been at the expense of similar activities or traditional handicrafts in more isolated areas. At least it seems clear that where transport systems are adequate, there is great potential for this sort of development in Java, as well as for the siting of large factories in rural areas. Rural population densities in Java exceed those found in urban areas in many countries, thus providing a concentrated workforce whose average educational level is being gradually raised. Land costs are lower than in the cities, and rural wage levels are low. In other words, the potential is there for the growth of nonagricultural employment to outstrip the growth of urbanization. Sumitro (1977) has raised the specter of Java as an "island city" by the year 2000, but he was basing this scenario mainly on the high population densities that will be reached by then (over 1,000 persons per sq km). The important point for planning is that the quasi-urban population densities and employment structure could be attained without the need for the same vast and complex infrastructural investments that would be required if this growth were to take place in the metropolises such as Jakarta, Surabaya, and Semarang. Unfortunately, it may also be the case that the investments needed if the growth takes place in dispersed rural areas, besides being less complex, can more conveniently be overlooked.

I would argue that the kinds of accommodations being made in Indonesia, and probably also in the crowded countries of South Asia, are inevitable escape valves for an otherwise intolerable growth of urbanization (intolerable, that is, from the point of view of both those entrusted with the provision of city services and those who must try to live there on very low incomes).

Many counterforces are at work, of course. Larger-scale industrial plants and service-sector enterprises may be attracted to rural areas only if transportation and communication networks are improved and if the rural labor force is well enough educated and trained to meet

their needs. But development of transportation also facilitates movement away from the rural areas, and educated young people seem to have stronger motives to move to the towns than the uneducated (Connell et al., 1976: ch. 3). Some deliberate policy measures will be needed to reinforce the tendency for increased diversification of the rural employment structure. Just what these measures should be is not easy to determine and will vary by country, but a central need is to raise rural purchasing power, so that a local market will develop for various kinds of goods and services. People without bicycles have no need for bicycle repair shops, nor are the impoverished likely to use the services of a village barber. Thus raising productivity in agriculture must be a key component of any strategy to diversify avenues of employment in rural areas.

FOSTERING BALANCED PATTERNS OF URBAN GROWTH

A key question that has not yet been addressed in this paper concerns the linkages between policies to foster a lower rate of urban growth with any given change in economic structure and policies to encourage a more balanced pattern of urban growth. To anticipate the argument to follow, it appears logical to view these not as alternative, but instead as complementary, policies.

On the whole, urban systems in Asian countries are highly polarized. This polarization did not emerge spontaneously.

> In most cases the evolution of the spatial development patterns in Asia was the result of deliberate location decisions and consistent investment policies that resulted in a heavy concentration of national resources for production, physical infrastructure, social services and public facilities in a single city or a few large metropolitan centers. These centers now have concentrations of productive and social overhead assets vastly greater than their share of national population. . . . Once polarization occurred, the effects reinforced each other to keep the primate city dominant and to make development of other cities and regions more difficult (Rondinelli, 1980: 333, 335).

Forces were set in motion that were later difficult to reverse or mitigate.

It is not necessary here to belabor the evidence for urban bias in development strategies and investments, provision of social services, and wage and price rewards (see Lipton, 1977: ch. 13; Renaud, 1981: 101–8; Rondinelli, 1980; Keyfitz, 1982:661–8; Todaro with Stilkind, 1981). What should be emphasized is that among national planners

the urban (or metropolitan) bias of policies adopted in good faith to assist certain groups is not always fully recognized. Three examples might be cited from Thailand, not because it is more prone to such situations than other Asian countries but because I know it better than most of the others. First, Thailand's well-known rice subsidy holds down the price of this basic staple to urban consumers but also holds down the prices paid to the farmers who produce it. Second, minimum wages in Thailand used to be set higher in Bangkok than in the provincial towns in recognition of Bangkok's higher cost of living. But because of pressure from the provinces to remove discrimination in wage policy, in 1982 the minimum wage was set at 61 *baht* (equivalent to US $2.77) in all cities. The new policy may result in the closure of some factories in provincial cities, which relied on the lower minimum wages to offset the many disadvantages of locating away from Bangkok. Third, the Bangkok mass transit authority, which runs Bangkok bus services, has [illegible] losses of 3.5 billion *baht* in seven years of operation. Only recently have fares been raised from their previously low levels, in response to pressure from the Ministry of Finance (*Far Eastern Economic Review*, March 1983).

To redress the first two policies would be to improve rural farm incomes relative to urban incomes, in the first case, and to make smaller cities a better investment magnet, in the second case. The recent fare rise for public transportation should free tax revenues, largely derived from the rural sector, for investment in rural or smaller-city development rather than for subsidization of metropolitan workers. These examples, which could be multiplied manyfold, hint at the logical relationship between strategies that will lower the pace of urbanization and those that will affect the structure of urbanization, favoring smaller-city rather than primate-city growth.

I do not intend to develop in any detail here the relationship between a strategy of retaining population in rural areas and the kind of strategy that might be adopted to affect the spatial distribution and growth of cities. The relative merits of growth-pole strategies; more general promotion of secondary cities or agropolitan development; regional strategies; and even a laissez-faire approach, which "offers a useful corrective against over-enthusiastic recommendation of costly and ineffective urban dispersion policies" (Richardson, 1977:48), have been usefully analyzed by Richardson (1977), Renaud (1981), Lo and Salih (1979), and others. It is important to bear in mind that, grand

strategies aside, removal of the more obvious and inegalitarian cases of urban bias would inevitably tilt the balance of attractiveness more in favor of smaller cities and rural areas—which is not to say that removal of urban bias will be anything other than an uphill struggle against strongly entrenched interests. The strength of those entrenched interests and their power to distort policy are noted in Gugler (1982:188–89; Jones, 1975:114; Stark, 1980; Keyfitz, 1982; and Lipton, 1977. As Todaro with Stilkind (1981:xiii) summarizes it:

> In order to eliminate the urban bias in development policies, three equally dramatic and perhaps unpopular steps need to be taken. The first is to end the special tax breaks, subsidized interest rates, excessive tariff protection, and other privileges enjoyed exclusively by urban large-scale industry. The second is to modify minimum wages by holding them to the level of average agricultural incomes while simultaneously slowing the growth of urban real wages at all levels in both the public and private sector. Third, governments must curtail the expansion of urban public services and instead provide for them in rural towns and small-city service centers.

What specific policies can be suggested to encourage people to remain in rural areas? The literature on agricultural development strategy and integrated rural development programs is too vast to summarize here, but agricultural development of a kind that does not concentrate wealth in fewer hands must be the cornerstone of any such strategy. Lipton (1982:26–29) argues that enhancing rural welfare and equality will almost always retard townward migration, whereas rural economic growth need not do so if it is achieved by means that displace poor rural workers. Any development that raises income levels of the rural poor helps to provide a market for other goods and services. Thus, increasingly prosperous rural areas can support the growth of a wide range of other economic activities, based either at the village level or in nearby market towns or smaller cities.

A second basic element of the strategy concerns public expenditure policies. These should emphasize provision of infrastructure in the form of roads, community centers, better water supplies, and the more widespread dispersion of schools and health centers. Provision of such infrastructure will make a four-way contribution to the strategy of keeping people in rural areas as the economic structure changes. It will make the rural areas more desirable places to live. It will provide in itself substantial new employment opportunities in the rural areas for school teachers, health workers, other government officials, and construction workers. It will upgrade the education and health

levels of the rural population, thus enhancing the quality of the rural workforce and hence the attractiveness of the rural areas to those wishing to set up industrial plants. Finally, the rural public works programs, especially if they are timed seasonally to take up the slack in employment, will raise family incomes and lessen the need for poor households to send members to the cities as a risk-minimization strategy. Such programs should not be "make-work" programs but designed to develop key rural infrastructure, such as market roads and tubewells. Larger-scale government investments—for example, in universities and military camps—can also serve the end of regional development.

Rural industrialization also holds considerable potential for retaining population in rural areas and improving household incomes. Here it is necessary to look for conditions advantageous to the development of decentralized small industry. Dixon (1978:77), citing Staley and Morse (1965), notes three such conditions:

1. Locational influences favoring factories processing a dispersed raw material (for example, butter or cheese); factories manufacturing products with local markets and relatively high transfer costs (for example, bottled and canned soft drinks); and service industries with individualized requirements (for example, printing)
2. Process influences favoring separable manufacturing operations with a high degree of specialization; crafts or precision handiwork; and simple assembly, mixing, or finishing operations
3. Market influences favoring differentiated products having low economies of scale (for example, ready-made garments); and industries serving small, total markets (for example, rice milling, glovemaking, making artificial flowers, and so forth).

It should perhaps be stressed that, provided a suitable transportation and communication network exists, rural industries do not have to be restricted to local markets, but can supply urban and export markets as well.

A burgeoning agriculture will provide new opportunities for rural industry. For example, canning of vegetables and fruit for export has become a major rural industry in Taiwan; and tractor-servicing facilities and facilities for repair of pumps and other agricultural equipment are spreading through the rural areas of Southeast Asia. Increased agricultural output can mean more work in processing and in transporting both the output and the inputs needed to produce it.

Employment for women needs to be given special consideration in

schemes to expand rural industry, because in countries such as India, Indonesia, and the Philippines, rural women have been displaced from many traditional tasks by recent developments (Jones, 1980:527; Collier et al., 1982; Dixon, 1978:17–25; Roumasset and Smith, 1981: 410–13) and so constitute an increasing reserve of potential rural-to-urban migrants. In South Asia, it is admittedly unlikely that a significant stream of independent female urbanward migrants will develop, given cultural constraints. In Southeast Asia, however, this is certainly not the case, and female migration flows are becoming important (Pryor, 1977; Khoo, forthcoming). Dixon (1978) discusses in some detail schemes for providing employment and income for rural women.

REGIONAL ASPECTS OF STRUCTURAL CHANGE AND URBANIZATION

Reduction of regional disparities is often seen as a way to reduce inequality among individuals and households in a country as a whole, though more direct forms of income redistribution are likely to be more efficacious. In any event, sharp regional disparities in levels of economic growth—much sharper than those in advanced economies—characterize many Asian countries, and lagging regions normally have lower than average levels of urbanization. For example, Northeastern Thailand, where per capita income is less than half the national average and less than one-sixth that of Bangkok, has only 10 percent of its population in urban areas as against a national figure of 23 percent. Other examples include the northeastern and northwestern states in Peninsular Malaysia, especially Kelantan (26 percent urban as against a Peninsular Malaysia figure of 42 percent); the northeastern states of Assam, Nagaland, Bihar, and Orissa in India (less than 10 percent urban compared with a national figure of 20 percent); northern Bangladesh (5 percent compared with a national figure of 9 percent);[7] and the eastern islands—Bali and East and West Nusatenggara—of Indonesia (8 percent compared with a national figure of 17 percent).

Given these regional inequalities, it is important to consider the regional aspects of policies designed to transform the rural employ-

7. It is noteworthy that this region adjoins the slightly urbanized states of Assam and Bihar in India. Actually, Bangladesh as a whole is slightly urbanized by Indian standards and, if we ignore national boundaries, completes a ring of little-urbanized states (along with Assam, Nagaland, Bihar, and Orissa) encircling the more urbanized state of West Bengal.

ment structure, as well as appropriate regional urbanization strategies.[8] In this context, five types of regions can be usefully distinguished:

(1) The primate city
(2) The metropolitan "shadow area"
(3) Downward transitional zones
(4) Growth-dominated rural areas
(5) Rural areas that have some characteristics of (3) and (4).

The metropolitan "shadow area" tends to be the heaviest contributor of migrants to the metropolis, but it also offers the best prospects for retaining population in rural areas through the development of commuting and circular migration patterns and the location of factories and other large employment-providing facilities (e.g., universities) outside the metropolitan area.

The downward transitional zone denotes settled agricultural areas with low productivity and problems of high population density, continued population growth (partly offset by out-migration), depletion of soil fertility, erosion, etc. Large areas of Thailand's northeast and of Uttar Pradesh in India, Java's southern limestone areas, and much of the Visayas in the Philippines typify such a zone.

The growth-dominated rural area can be subdivided into two kinds—the resource frontier where new land settlement or development of new extractive industries is taking place and service towns are developing as a result (e.g., some of Indonesia's transmigration areas or Malaysia's regional developmental areas), and more settled areas where development of new crops, extended irrigation, and agro-based industries are bringing greater rural prosperity, with accompanying urban growth (e.g., Thailand's Chiangmai Valley, the Philippines' Region 11 centered on Davao City, and the Green Revolution states of northwestern India, particularly Haryana and Punjab).

Strategies for strengthening nonagricultural employment in rural areas of such regions may differ greatly, depending on their special characteristics. Malaysia has been relatively successful in building a prosperous peasantry through FELDA (Federal Land Development

8. There is not space here to do justice to the vast literature on regional development and regional urbanization strategy except where it touches directly on the theme of this paper. (For comprehensive studies, see Lo and Salih, 1979; Renaud, 1981; and the references they cite. For an evaluation of policies to date, see El-Shakhs, 1982:147–62.)

Authority) projects in many frontier regions. The key concern now is how to hold the second generation in rural areas, as large family size and strict rules against fragmentation of holdings limit opportunities in agriculture and as increased prosperity, together with the education and heightened aspirations that go with it, further weakens the interest in a farming career (Chan, 1981:415–16). So far, it appears unlikely that the limited factory employment and other jobs available in the newly created service towns will fill the gap. The Philippines in Region 11 has followed a different model, based on plantation agriculture, agribusiness, appropriate rural manufacturing ventures (e.g., a pulp and paper mill), and government investment in infrastructure, including irrigation, power, and transport. Increased rural prosperity has created opportunities for many small business ventures, as well as boosting the growth of the regional city, Davao City.

Perhaps the most intractable problems are raised by the downward transitional zones. The best solution to their problems is not necessarily to try to hold population in them or to force firms to move to them from the capital city. Their local markets may be too small to sustain such development, and their transport and communications systems too weak. On one hand, faster overall national economic growth may occur if substantial out-migration from these zones takes place, to regions of greater opportunity (though in densely settled South Asian countries, few target areas of economic opportunity exist, unless they be the big cities). On the other, appropriate strategies may be feasible to redynamize agriculture in such areas, and they, together with the remittances received from out-migrants, could in time generate a larger local market. Agricultural development strategies could be linked with strategic government investments (e.g., in transportation, communication, and education) and development of regional secondary cities.

A useful case study supporting some of these arguments is Hafner's (1980) study on Thailand's northeast. He argues that the prospects for industrial development, including agriculture-based industrial development, are poor and therefore policies to develop "area development centers" or growth poles will only hasten the process of "urban involution" (McGee, 1967), whereby growing urban populations are absorbed mainly in marginally productive service-sector activities. Without real growth in the agricultural sector leading to increased rural purchasing power, there will be little basis for rapid growth of

industrial and service activities in northeastern towns. Provided that the emphasis is on transformation of the rural agrarian sector, Hafner favors the government's new Northeast Secondary Cities Urban Development Policy, by which four northeastern towns are designated as growth centers and will receive infrastructural investments, expanded urban services, and significant fiscal and monetary incentives to encourage industrial development. (For details see Pakkasem, 1977: 393–400.)

SUMMARY AND CONCLUSIONS

Two groups of Asian countries have been the primary focus of this paper. The first consists of the rapidly developing countries such as the Republic of Korea, Taiwan, and Malaysia, where agriculture no longer plays a dominant role in the economy and where the employment transition is being effected in two ways—by the movement of workers from rural to urban areas (normally from agricultural to nonagricultural employment), and by a modification of the occupational structure in rural areas, increasing the share of nonagricultural employment. The second group comprises the poorer countries, the South Asian countries in particular, where the employment transition is sluggish and continued rapid population growth is adding vast numbers to both the rural and the urban workforce. In between is an intermediate group of countries including the Philippines and Thailand.

None of the Western countries at a comparable stage of development had to plan for cities even approaching the size of the largest cities of Indonesia and India; none had the vast rural populations as potential sources of rural-to-urban migrants; none had rates of population growth even approaching those of the countries of the Indian subcontinent. Rates of population growth in the countries of South Asia imply rates of urban growth exceeding 3 percent per annum *even if* the movement of labor out of agriculture is only on a modest scale. Such rapid growth implies a doubling of urban population in, at most, 23 years, and probably a doubling in size of the Calcuttas, Bombays, Karachis, and Jakartas in a much shorter period. A faster rate of economic growth would only mean still faster urbanization, unless the accommodationist trends discussed in this paper are successful.

The contention of this paper is that, although the different groups of countries have different reasons for concern about rapid urban growth, all of them have reason to look carefully at ways of fostering

transformation of the employment structure in rural areas in a way that will reduce the tempo of urbanization without losing the benefits usually attributed to urbanization. The countries with the strongest reasons for interest in such policies are the large, poor countries with dense rural populations, which face enormous problems if their cities actually grow as projected. They have good reason to assume that structural transformation of production and employment can be achieved with a lesser or greater tempo of urbanization, and that the outcome is amenable, at least to some extent, to manipulation through conscious policies, some of which have been noted in this paper.

Is it possible to reconcile this argument with those that attribute to urbanization a key role in modernizing attitudes and aspirations, and concentrating in a dynamic way the creativity of a nation? If urbanization is indeed a necessary prerequisite for changes in circumstances and hence attitudes that will give women and children new roles, foster lower fertility and more egalitarianism within the family, lead to more "economic mindedness" and drive, and cause the sloughing off of irrational beliefs and customs, then it could be argued that any attempts to slow the process would inhibit economic and social development. The obvious reply to this argument is that it is not urbanization per se that leads to these changes but rather a number of circumstances that tend to be present in urban areas. The key question, then, is whether these circumstances, or others that achieve similar results, can be captured in rural areas.

There is enough evidence of both the persistence of traditional attitudes and beliefs even in large metropolises (e.g., the Betawi in Jakarta—see Al Hadar, 1982) and the possibility that rural areas actually lead cities in various aspects of modernization (e.g., the faster adoption of family planning and fertility decline in rural East Java than in Java's cities) to throw doubt on any theory of social and attitudinal change that gives primacy to urbanization per se. It seems possible that stresses on development of rural education, communications, community development efforts, and rural industry, linked with the greater pliability of rural populations in the face of strong government programs, could mean that the developmental aspects of urbanization could equally be captured in rural areas.

It would be unfortunate if a failure of imagination were to strengthen the already strong urban biases in the poorer countries of

Asia. If the ultimate vision that Indian or Indonesian planners hold of their densely populated countries 50 years from now is something other than the re-creation of American urban patterns, complete with freeway systems and wasteful consumption patterns, then it is important that the development strategies they design are not locked into patterns apparently designed to produce just that.

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Table 5, page 17: Heading over columns showing years should be "% of labor force in nonagriculture ÷ % of population urban × 100."